RECREATIONAL MAIL SURVEYS, 1983 — TIDAL SPORTFISHING DIARY PROGRAM AND VISITORS SPORTFISHING SURVEY

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Recreational Mail Surveys, 1983 - Tidal Sportfishing Diary Program and Visitors Sportfishing Survey

by

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RECREATIONAL MAIL SURVEYS, 1983 - TIDAL SPORTFISHING DIARY PROGRAM AND VISITORS SPORTFISHING SURVEY

PREFACE

The Tidal Sportfishing Diary Program was initiated in 1979 to obtain estimates of the sport catch by B.C. residents fishing in B.C. tidal waters. The Visitors Sportfishing Survey was first conducted in 1983 to obtain estimates of sport catch and expenditures by visitors fishing in B.C. tidal waters. Previous reports cover survey development and annual results. This report deals with the 1983 results and further developments.

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ABSTRACT

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Mail surveys collected 1983 catch and effort data on recreational fishing in B.C. tidal waters. During 2,018,000 angler days, adult anglers caught and kept 1,067,000 salmon including 353,000 chinook and 555,000 coho. The salmon catch in 1983 was higher than 1982, due to an increase in the chinook catch. Most effort was from boats and directed towards salmon in general. Catch per unit effort estimates are compared to other years. Juvenile anglers caught and kept an additional 63,000 chinook and 102,000 coho during 350,000 angler days. Problems and improvements related to mail surveys are reviewed.

Keywords: sportfishing, tidal waters, logbook, mail survey, catch statistics

RÉSUMÉ

Bijsterveld, L., M. James and B. Moore. 1985. Recreational mail surveys, 1983 - Tidal Sportfishing Diary Program and Visitors Sportfishing Survey. Can. MS. Rep. Fish. Aquat. Sci. 1801:V + 56p.

À l'aide de sondages par courrier, on a recueili des données sur les prises et l'effort pour la pêche sportive effectuée en 1983 dans les eaux de marée de la C.-B. Au cours de 2 018 000 jours-pêcheur, des adultes ont capturé et gardé 1 067 000 saumons dont 353 000 quinnates et 555 000 cohos. En 1983, les prises de saumons étaient plus élevées qu'en 1982 à cause d'une augmentation des captures de quinnats. La plus grande partie de l'effort a été déployé de bateaux et dirigé vers le saumon en général. Les estimations des prises par unité d'effort sont comparées à celles d'autres années. De plus, de jeunes pêcheurs ont capturé et gardé 63 000 quinnats et 102 000 cohos au cours de 350 000 jours-pêcheur. On examine aussi les problémes et les améliorations concernant les sondages par courrier.

Mots-clés: pêche sportive, eaux de marée, carnet de pêche, sondage par courrier, statistiques sur les prises

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RECREATIONAL MAIL SURVEYS, 1983 - TIDAL SPORTFISHING DIARY PROGRAM AND VISITORS SPORTFISHING SURVEY

INTRODUCTION

Estimates of sport catch and effort in B.C. tidal waters have been made by Department Fishery Officers since the early 1950s. Sportfishing effort increased in the 1960s and 1970s with no corresponding increase in manpower for collection of sport statistics. Independent studies in the late 1970s indicated that the Department was underestimating the salmon sport catch by two to four times. An alternative method of collecting sport statistics was indicated.

The Tidal Sportfishing Diary Program was introduced in 1979 as a method of estimating sport catch, based on a review and recommendation by Brickley (1979). The major problem encountered during the first years of the program was accessing anglers in the absence of a licencing program. The introduction of the B.C. Tidal Waters Sport Fishing Licence in 1981 facilitated accessing tidal water anglers for the program. The Visitors Sportfishing Survey also makes use of the Sport Fishing Licences. This survey was first conducted in 1983 to obtain estimates of sport catch and expenditures by anglers visiting B.C. in 1982.

METHODOLOGY

Tidal Sportfishing Diary Program

A systematic sample consisting of 5% of the 1982 B.C. Tidal Waters Sport Fishing Licences was drawn. The licence information was keypunched directly from the licence stubs to produce an address list. Approximately 10,000 postcard questionnaires were sent at the end of 1982 to sampled anglers from B.C. Reminders were sent to questionnaire nonrespondents 4 weeks after the initial sendout.

Questionnaire recipients were asked about their fishing activity in 1982 and whether they were willing to keep daily fishing records in 1983. A systematic sample of questionnaire nonrespondents was surveyed by telephone to obtain the questionnaire information. The questionnaire and telephone survey data were used to adjust the potentially greater catch and effort of diary volunteers.

Questionnaire respondents volunteering to keep records were supplied with diary booklets. The first diary covered nine months while the second covered the following six months. The 1983 Diary Program covered 15 months due to a transition in the licence year from a calendar year to a fiscal year.

Diarists were provided with different forms for recording their days

spent fishing for finfish and shellfish. For each day fishing for finfish, volunteers were asked to record the following information: type of fishing (boat, shore, pier, bar, diving), party size, number of lines, time spent fishing, target species and statistical area. The catch of the following was also requested: chinook (under 18", 18" to 26", over 26"), coho (under 12", 12" and over), pink salmon, other salmon, lingcod, Pacific cod, rockfish, halibut, trout, flatfish and other fish. Diarists were asked to record the number caught and kept by the entire party, for each species. The following information was requested for each day fishing for shellfish: statistical area and the catch of crab, shrimp and prawns, clams, mussels, abalone, oysters and other shellfish. Diarists were asked to record the number of traps used for crab fishing and the soak time of the traps.

Diary volunteers were provided with B.C. Tidal Waters Sportfishing Guides. The Guide contains sportfishing regulations and aids fish identification. Diarists were sent Tidal Diary Newsletters every three months to remind them to participate in the program.

Visitors Sportfishing Survey

Approximately 2,500 questionnaires were sent to visiting North American anglers (excluding B.C.) selected as part of the 5% licence sample. Reminders were sent to questionnaire non-respondents five weeks after the initial sendout. Questionnaire recipients were asked about their fishing activity and expenditures in B.C. during 1982.

RESULTS

Returns

The number of questionnaires sent out for the 1983 Diary Program is provided in Table 1. The questionnaire return rate is fairly consistent with other years. Questionnaire respondents were considered to be anglers if they indicated fishing in 1982. The proportion of anglers volunteering to keep diaries was similar to that obtained in 1982 as was the proportion of active diarists.

Approximately 2,500 questionnaires were sent out for the 1983 Visitors Survey. The return rate for the Visitors Survey was 71%. Only 1% of the respondents did not use their licences in 1983.

Resident Sportfishing Population

The estimated number of B.C. resident adult anglers in 1983 is provided in Table 2. The population is estimated from sportfishing licences and consists of adult B.C. resident tidal water anglers (aged 16 and over). The angling population is adjusted for activity because only 85% of licence holders actually fish.

Characteristics of the population of licence holders can be estimated from the sample of licence holders selected to receive questionnaires. Males

TABLE 1

TIDAL SPORTFISHING DIARY PROGRAM
RETURNS

	1979	1980	1981	1982	1983
Questionnaires					
Number Sent	9,978	10,176	1,940	13,747	9,912
Possible Contacts[1]	NA	8,239	1,929	12,793	9,278
Number Returns	4,761 (48%)	6,184 (75%)	1,268 (66%)	8,575 (67%)	6,140 (66%)
Number Anglers	1,307 (28%)	1,843 (30%)	1,268 (100%)	7,677 (90%)	5,555 (90%)
Diaries					
Number Diary Volunteers	595 (46%)	1,369 (75%)	922 (73%)	5,217 (68%)	3,546 (64%)
Number Active Diarists[2]	137 (23%)	321 (23%)	464 (50%)	2,094 (40%)	1,292 (36%)

1. Possible contacts = number sent - undeliverable questionnaires.
2. Diarists fishing at least one day during program year.

TABLE 2

POPULATION OF ACTIVE B.C. RESIDENT TIDAL WATER ANGLERS

Year	Number of Anglers
1979	188,300[1]
1980	211,900[1]
1981	215,900[2]
1982	189,200[2]
1983	190,500[2]

1. Aged 18 and over.
2. Aged 16 and over.

account for 80% of the population of licence holders while females account for only 20% (Figure 1). The population of B.C. adults, by comparison, is composed of almost equal numbers of males and females (Statistics Canada 1984a).

The age composition of the B.C. adult population is presented in Figure 2a. The proportion of individuals between 26 and 55 years of age is higher among licenced anglers than among B.C. adults in general. More young adults and seniors are present in the total population of adults.

The distribution of B.C. residents and licenced anglers by area of residence is presented in Figure 3. Over 75% of licenced anglers are from Vancouver Island and the Greater Vancouver area. These areas account for only 60% of the total population of B.C. (Statistics Canada 1984b). The proportion of licenced anglers is higher than the proportion of the population in coastal areas, with the exception of Greater Vancouver.

Population of Visiting Anglers

An estimated 75,000 visiting anglers fished in B.C. tidal waters in 1983. The population consisted of 30,300 Canadians, 42,600 U.S. visitors and 2,000 visitors from other countries. The population of visiting anglers is not adjusted for activity (participation) because survey results indicate that only 1% of visiting licence holders do not use their licences. The sex

FIGURE 1

SEX COMPOSITION OF B.C. ADULTS - 1983

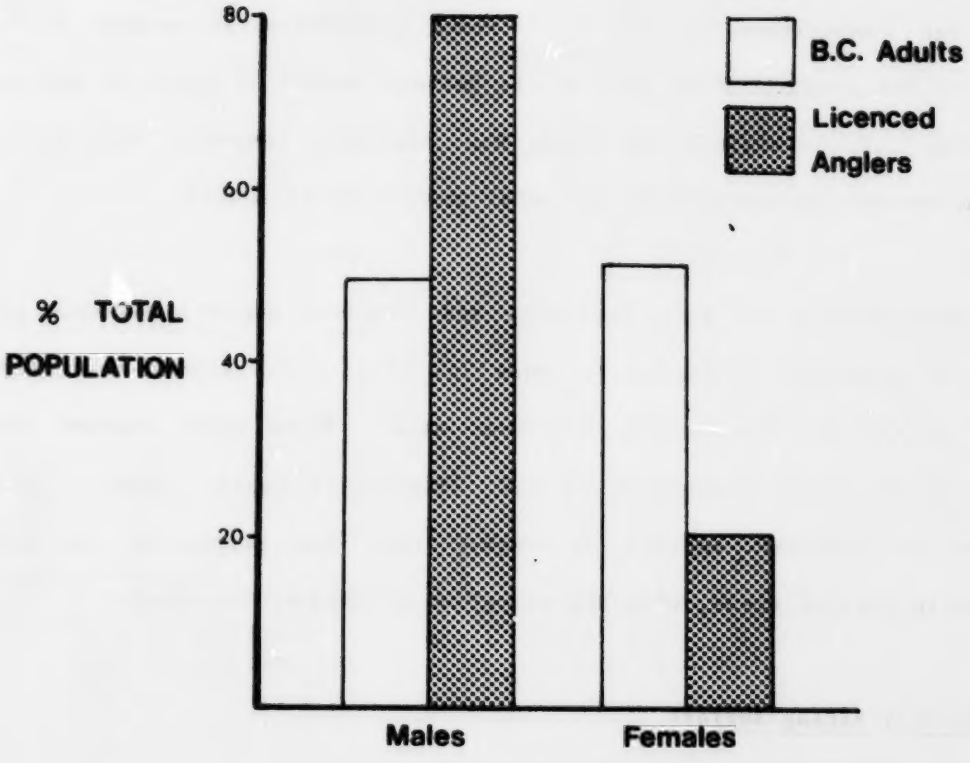


FIGURE 2a

AGE COMPOSITION OF B.C. ADULTS - 1983

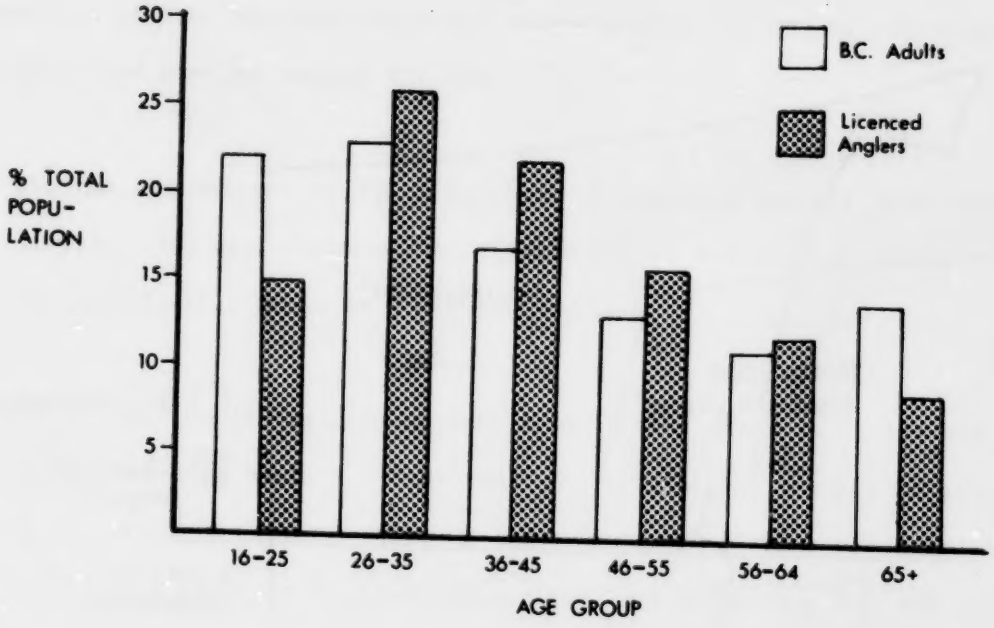


FIGURE 2b

AGE COMPOSITION OF VISITING ANGLERS - 1983

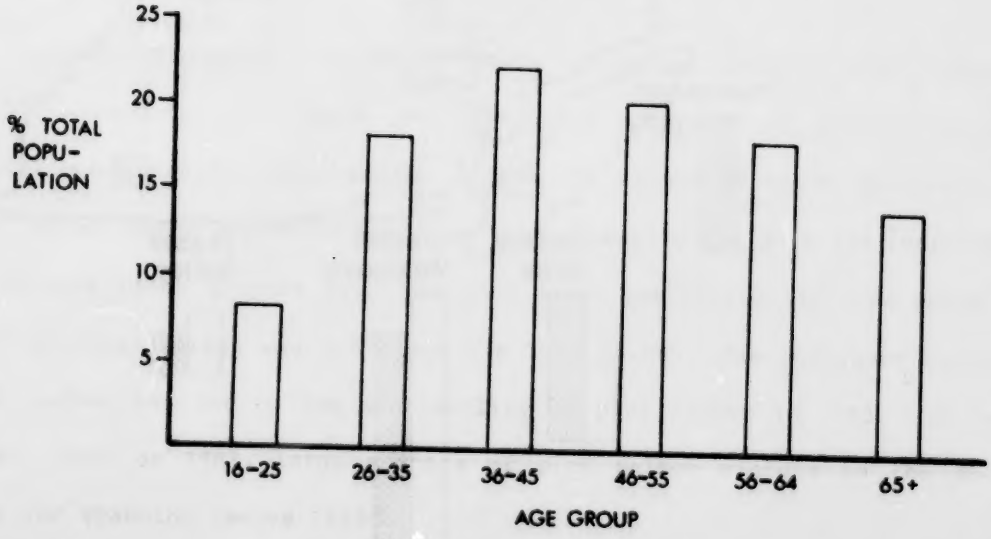
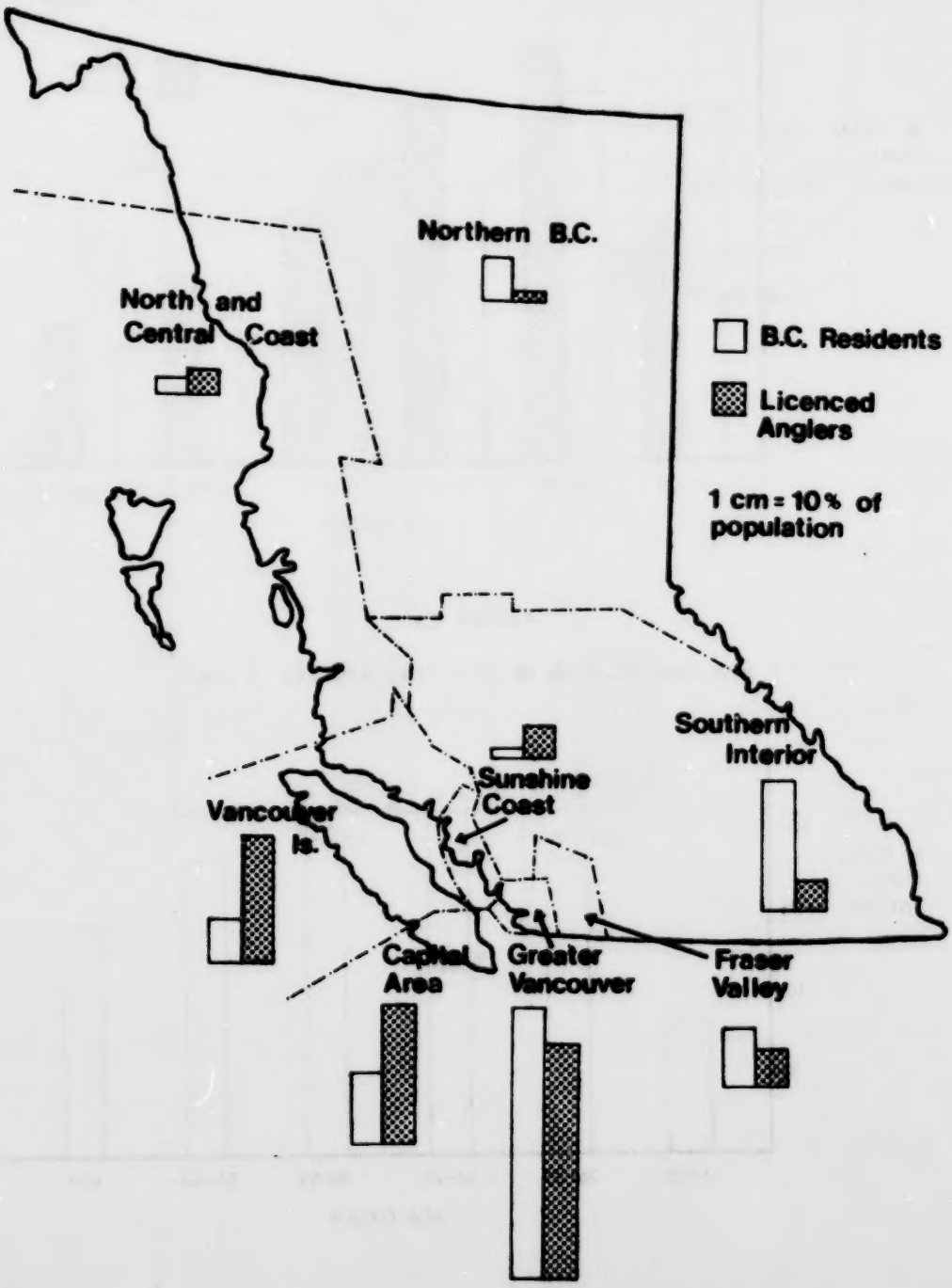


FIGURE 3

DISTRIBUTION OF B.C. RESIDENTS AND LICENCED ANGLERS
BY RESIDENCE AREA - 1983



composition of the population of visiting anglers is similar to the composition of B.C. resident anglers. Males account for 78% of the visiting population and females account for 22%.

The age composition of the population of visiting anglers is presented in Figure 2b. The proportion of individuals age 45 and over is higher among visiting anglers than among B.C. resident anglers.

The proportion of visiting anglers from various areas in Canada and the U.S. is presented in Table 3. Over half of the visiting anglers originated from areas adjacent to B.C. (Alberta and Washington). Americans accounted for 56% of the visiting anglers while Canadians accounted for 40%. The remaining 4% of the visiting anglers originated from outside North America.

Catch

British Columbia resident adult anglers caught and retained 842,000 salmon in 1983 (Table 4). The catch consisted of 289,000 chinook, 438,000 coho, 101,000 pink salmon and 14,000 salmon of other species. The total salmon catch increased 25% from 1982 primarily due to a 50% increase in the chinook catch (Figure 4). The coho catch was similar to 1982 while the catch of other salmon was 2.5 times the 1982 catch. The increased catch of other salmon was due to the availability of pink salmon in 1983. In "odd-years", such as 1983, large numbers of pink salmon migrate to the Fraser River for spawning (Neave 1962).

TABLE 3

RESIDENCE OF VISITING ANGLERS - 1983

CANADA

Province	Percentage of Visiting Anglers
Alberta	27.4
Ontario	6.0
Saskatchewan	2.6
Other	4.0
Total Canada	40.1

UNITED STATES

State	Percentage of Visiting Anglers
Washington	28.2
California	11.1
Oregon	4.2
Other	12.9
Total United States	56.4

TABLE 4

TIDAL SPORTFISHING DIARY PROGRAM
ANNUAL CATCH[1] AND EFFORT ESTIMATES ('000s)

	1979[2]	1980	1981	1982	1983
Angler Days	419.7	850.7	1,520.9	1,238.9	1,521.0
Chinook	166.2	391.4	192.3	196.4	289.2
Coho	208.7	362.0	308.0	439.0	438.4
Other Salmon	36.2	45.1	119.5	46.7	114.8
Total Salmon	411.1	798.5	592.4	682.1	842.4
Lingcod	27.0	133.4	133.5	160.9	123.5
Rockfish	206.8	253.7	278.0	321.4	209.4
Crab	40.4	209.8	210.7	140.1	167.4

1. Catch is reported in number of fish kept.

2. Diary program was initiated in mid-year. Catches are for July to December.

FIGURE 4

TIDAL SPORTFISHING DIARY PROGRAM
ANNUAL SALMON CATCH ESTIMATES

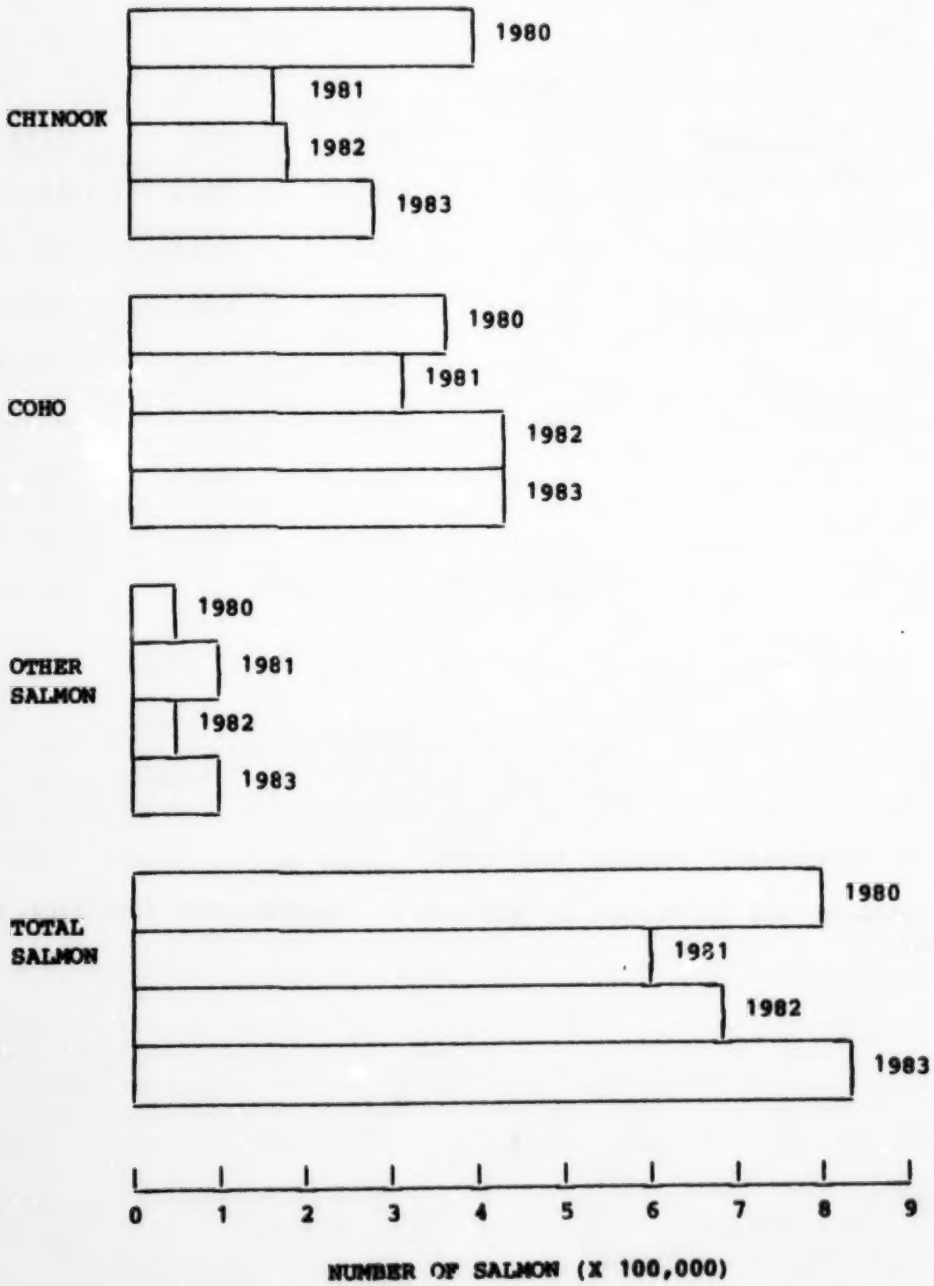


TABLE 5

1983 VISITORS SPORTFISHING SURVEY
CATCH[1] AND EFFORT BY VISITING ANGLERS BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days	61.2	382.8	53.2	497.2
Chinook	9.3	43.1	11.1	63.5
Coho	18.2	91.4	7.1	116.7
Other Salmon	8.9	32.1	2.9	43.9
Total Salmon	36.4	166.6	21.1	224.1
Lingcod	2.6	18.3	3.7	24.6
Rockfish	3.0	17.8	1.5	22.3
Pacific Cod	1.4	9.8	1.1	12.3
Halibut	0.3	0	0	0.3

1. Catch is reported as number of fish kept.
2. Department of Fisheries statistical areas.

Visiting anglers caught an additional 224,000 salmon, consisting of 63,000 chinook, 117,000 coho and 44,000 salmon of other species (Table 5). The combined catch by B.C. resident and visiting anglers was 353,000 chinook, 555,000 coho and 159,000 salmon of other species, resulting in a total catch of 1,067,000 salmon in 1983 (Table 6).

The South Coast and Fraser region was the major contributor to the salmon catch in 1983 (Table 7). This region accounted for 85% of the chinook, 90% of the coho and 90% of the total salmon caught and kept by B.C. resident anglers in 1983. This region contributed a smaller proportion (75%) of the total salmon catch by visiting anglers. The Comox area (statistical area 14) contributed 16% of the total salmon and 23% of the total coho catch, making this the leading salmon area in 1983. Nanaimo (statistical area 17) and Victoria (statistical area 19) were the leading chinook areas with 14% and 12% of the total chinook catch, respectively.

Over half of the salmon were taken during the summer months (June, July and August) in 1983 (Table 8). The total salmon and chinook catches peaked in August while the coho catch peaked a month earlier (Figure 5).

British Columbia anglers caught and retained 124,000 lingcod, 209,000 rockfish, and 8,000 halibut in 1983 (Table 7). Visiting anglers contributed an additional 25,000 lingcod, 22,000 rockfish and 300 halibut. The catches of lingcod and rockfish by B.C. resident anglers decreased 25% and 35%, respectively, from 1982. The South Coast and Fraser region accounted for 85%

TABLE 6

1983 B.C. TIDAL WATER SPORT CATCH AND EFFORT ('000s)

	B.C. Resident Anglers[1]	Visiting Anglers[2]	Total
Angler Days	1,521.0	497.2	2,018.2
Chinook	289.2	63.5	352.7
Coho	438.4	116.7	555.1
Other Salmon	114.8	43.9	158.7
Total Salmon	842.4	224.1	1,066.5
Lingcod	123.5	24.6	148.1
Rockfish	209.4	22.3	231.7
Pacific Cod	86.9	12.3	99.2
Halibut	7.6	0.3	7.9
Crab	167.4	27.7	195.1

1. Tidal Sportfishing Diary Program.
2. Visitors Sportfishing Survey.

TABLE 7

1983 TIDAL SPORTFISHING DIARY PROGRAM
B.C. ADULT RESIDENT CATCH[1] AND EFFORT BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days	80.2	1,326.1	114.7	1,521.0
Chinook	17.0	246.6	25.6	289.2
Coho	18.6	400.6	19.2	438.4
Pink Salmon	8.1	92.0	1.1	101.2
Other Salmon	1.1	9.9	2.6	13.6
Total Salmon	44.8	749.1	48.5	842.4
Lingcod	3.3	110.6	9.6	123.5
Rockfish	8.2	186.6	14.6	209.4
Pacific Cod	6.6	73.0	7.3	86.9
Halibut	5.8	1.7	0.1	7.6
Herring	13.1	167.0	0	180.1
Crab	39.2	110.6	17.6	167.4

1. Catch is reported as number of fish kept.
2. Department of Fisheries statistical areas.

TABLE 8

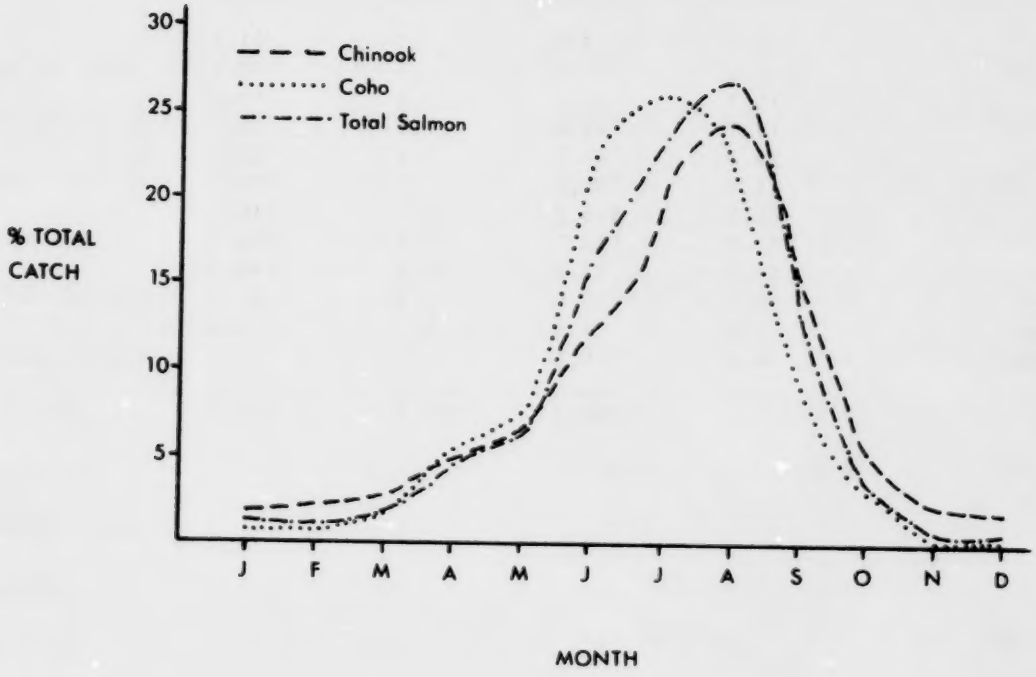
1983 B.C. TIDAL WATER SPORT SALMON CATCH[1] ('000's) BY MONTH

Month	Chinook	Coho	Other Salmon	Total Salmon
January	6.7	4.0	.5	11.2
February	8.2	4.4	.1	12.7
March	10.1	9.6	.2	19.9
April	17.7	31.0	1.8	50.5
May	24.0	43.0	1.4	68.4
June	44.5	124.4	6.5	175.4
July	68.9	144.2	35.2	248.3
August	85.5	123.7	77.3	286.5
September	54.2	53.0	33.6	140.8
October	19.5	17.6	2.4	39.5
November	7.6	1.3	0.1	9.0
December	6.3	0.6	0	6.9
Total	353.2	556.8	159.1	1,069.1

1. Catch is reported as numbers of fish kept.

FIGURE 5

1983 B.C. TIDAL WATER SPORT SALMON CATCH
PERCENT BY MONTH



of the lingcod, rockfish and cod. Most (75%) of the halibut were taken from the North and Central Coast region.

More than half of the catch of non-salmon species occurs from May through August. The distribution of the catches of lingcod, rockfish and cod throughout the year is presented in Figure 6. The decrease in catch in June coincided with a decrease in groundfish effort. The decline in the halibut catch from May through July coincided with the 1983 commercial halibut season (Figure 6).

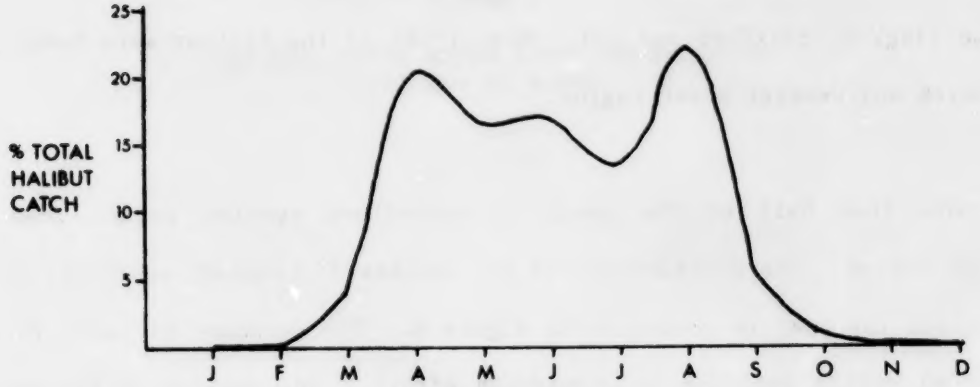
The 1983 shellfish catch by licenced B.C. resident anglers is presented in Table 9. The 1983 shellfish catch by licenced visiting anglers is presented in Table 10. Survey results from Bourne and Carmichael (1984) indicate that only half of the individuals harvesting shellfish recreationally possess tidal water licenees (licences are only required for sport harvest of finfish). Therefore the catches presented in Tables 9 and 10 may represent only half of the recreational shellfish harvest in B.C. The South Coast and Fraser region was the major contributor to the shellfish catch with the exception of abalone. The West Coast of Vancouver Island region contributed 45% of the abalone.

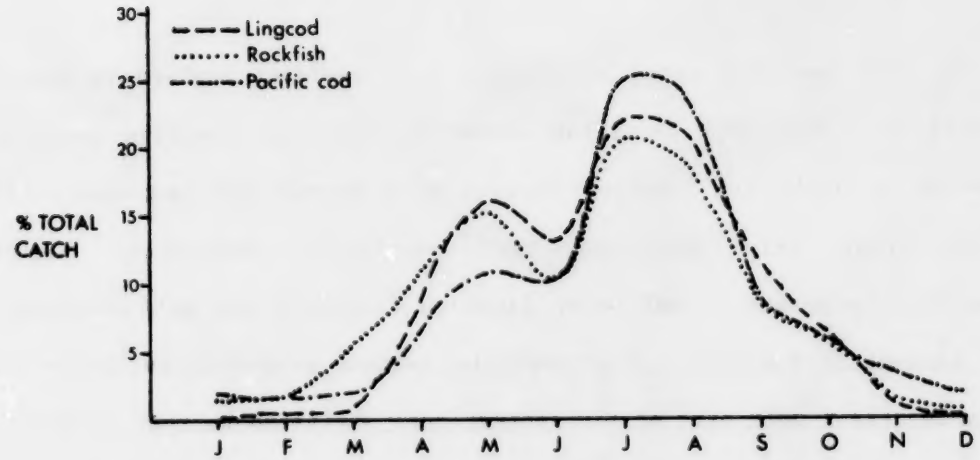
Effort

British Columbia resident anglers fished an estimated 1.5 million days in 1983. The total effort consisted of 1.4 million days fishing for finfish

FIGURE 6

1983 TIDAL SPORTFISHING DIARY PROGRAM
GROUNDFISH CATCH AND EFFORT - PERCENT BY MONTH





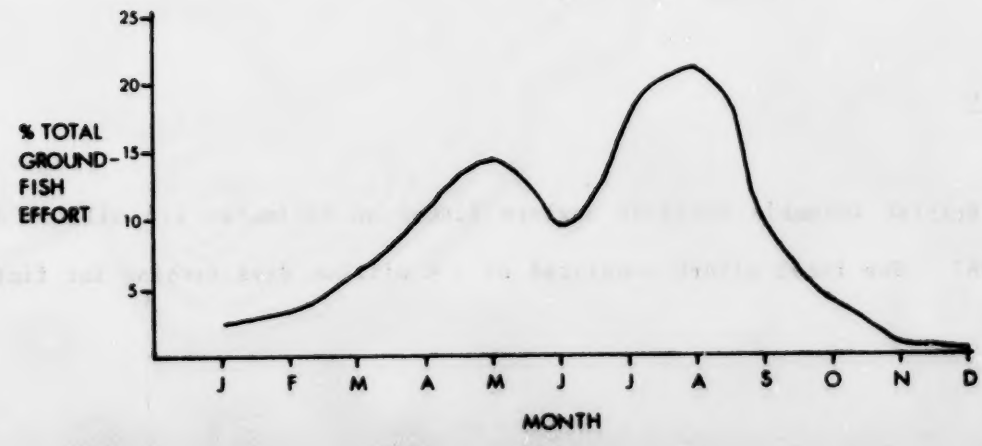


TABLE 9

1983 TIDAL SPORTFISHING DIARY PROGRAM
B.C. ADULT RESIDENT SHELLFISH CATCH[1] AND EFFORT BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days (Shellfish)	22.7	137.1	15.9	175.7
Crab	39.2	110.6	17.6	167.4
Shrimp, Prawns	4.1	8.6	0.5	13.2
Clams	22.7	869.3	39.3	931.3
Mussels	25.9	62.2	13.5	101.6
Abalone	3.8	8.4	9.6	21.8
Oysters	1.2	314.6	10.0	325.8

1. Catch is reported as number of shellfish with the exception of shrimp and prawns. These are reported in kilograms.

2. Department of Fisheries statistical areas.

TABLE 10

1983 VISITOR SPORTFISHING SURVEY
SHELLFISH CATCH[1] AND EFFORT BY REGION ('000s)

	North and Central Coast (1-11)[2]	South Coast and Fraser (12-20,28,29)[2]	West Coast Vancouver Island (21-27)[2]	Total (1-29)[2]
Angler Days (Total)	61.2	382.8	53.2	497.2
Crab	3.7	21.2	2.8	27.7
Shrimp, Prawns	0	0.2	0	0.2
Clams	0.8	40.9	0	41.7
Mussels	0	0.2	0	0.2
Abalone	0	0.1	0	0.1
Oysters	0	25.5	0	25.5

1. Catch is reported as number of shellfish with the exception of shrimp and prawns. These are reported in kilograms.

2. Department of Fisheries statistical areas.

and 176,000 days fishing for shellfish. These separate estimates include 79,000 combined days (fishing for both finfish and shellfish). Visiting anglers fished an estimated 497,000 days in B.C. tidal waters in 1983, bringing that year's total tidal water estimate of effort to 2 million days in 1983.

More than 90% of the finfish effort by B.C. resident anglers occurs from boats. The percentage of effort from boats is much lower around the Fraser River (area 29), due to a closure to salmon sport fishing at the mouth of the Fraser River (Department of Fisheries and Oceans 1983). Fishing from the shore and fishing bars accounts for almost half (42%) of the effort in this area.

Most of the total finfish effort (85%) of B.C. anglers is directed towards salmon in general. The proportion of effort directed towards chinook salmon is highest during the winter months (December through February).

Over half of the total effort occurs during the summer months (July through September). Most of the effort (85%) occurs in the South Coast and Fraser region. Anglers from many areas of B.C. come to this region to fish, as indicated in Table 11. Generally, the majority of coastal residents fish close to their residence (Table 12).

TABLE 11

1983 TIDAL SPORTFISHING DIARY PROGRAM

TOTAL: 1983 : ANGLER COMPOSITION (BY RESIDENCE AREA) IN EACH STATISTICAL AREA (PERCENTAGE ANGLER DAYS)

RESIDENCE AREAS*	STATISTICAL AREAS																											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	81	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	19	98	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	71	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	6	8	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	10	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	87	35	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
13	0	0	0	0	0	0	0	0	33	0	0	1	38	2	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	7	5	58	6	1	2	0	0	0	0	50	6	4	5	43	1	0	1
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	2	2	1	36	38	2	0	0	0	0	0	3	0	0	0	0	0	8
17	0	30	0	0	0	0	0	0	0	0	0	6	9	8	0	0	61	4	1	1	0	0	11	11	5	0	0	0	1
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	5	43	3	4	30	0	2	4	0	29	2	0	0
19	0	0	0	0	0	0	0	0	6	0	0	8	5	7	2	2	3	19	92	78	30	0	11	8	6	7	8	0	2
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	2	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	0	0	0	0	50	38	4	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	7	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	14	80	0	0
28	0	0	0	0	0	26	20	34	14	0	0	0	4	3	13	9	6	2	1	1	0	0	4	9	0	0	0	52	16
29	0	23	0	2	0	1	40	46	31	0	13	37	24	14	34	43	19	27	2	2	20	0	13	21	3	0	0	47	72
South Int	0	5	0	0	0	0	0	9	0	0	0	3	13	3	4	8	1	2	0	1	20	0	2	19	26	0	6	1	1
North Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Residence Areas 1 to 29 are Fisheries Statistical Areas. Interior Areas are outside of Statistical Area boundaries

TABLE 12

1983 TIDAL SPORTFISHING DIARY PROGRAM

TOTAL: 1983 : DISPERSION OF ANGLERS FROM EACH RESIDENCE AREA TO STATISTICAL AREAS FOR FISHING (PERCENTAGE ANGLER DAYS)

RESIDENCE AREAS*	STATISTICAL AREAS																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	89	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	6	90	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	64	0	0	0	0	0	0	0	0	0	0	0	2	10	3	0	0	20	2	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	11	22	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	7	88	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	1
14	0	0	0	0	0	0	0	0	4	0	0	1	82	10	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	2	3	85	1	1	2	0	0	0	0	0	3	0	1	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	1	0	0	0	0	0	0	0	0	0	1	2	3	9	69	3	0	0	0	0	0	3	0	0	0	0	0	8
18	0	0	0	0	0	0	0	0	0	0	0	2	6	11	0	0	68	3	1	1	0	0	6	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	12	67	7	6	0	0	3	0	0	1	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	1	2	5	0	1	2	6	54	25	0	0	3	0	0	0	0	0	1
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	87	0	0	12	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	0	9	1	0	0	0	0	77	0	0	0	0	0	1
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	90	1	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	0	4	75	0	0
28	0	0	0	0	0	5	0	2	1	0	0	0	4	6	3	13	9	2	1	1	0	0	3	0	0	0	0	37	13
29	0	0	0	0	0	0	0	1	0	0	0	5	8	9	2	21	10	8	1	1	0	0	3	0	0	0	0	11	20
South Int	0	0	0	0	0	0	0	1	0	0	0	3	27	12	2	27	3	5	1	1	0	0	4	2	8	0	1	1	1
North Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Residence Areas 1 to 29 are Fisheries Statistical Areas Interior Areas are outside of Statistical Area boundaries

TABLE 13

SALMON CATCH PER UNIT EFFORT

	Chinook	Coho	Total Salmon
1983			
B.C. Resident Anglers	0.19	0.29	0.55
Visiting Anglers	0.13	0.23	0.45
All Anglers	0.17	0.28	0.53
1982			
B.C. Resident Anglers	0.16	0.35	0.55
Visiting Anglers	0.21	0.48	0.77
All Anglers	0.17	0.38	0.60

Catch Per Unit Effort (CPUE)

The average catch per angler-day for B.C. resident anglers in 1983 was 0.19 chinook, 0.29 coho and 0.55 for all salmon combined (Table 13). The catch rate of chinook increased by almost 20% from 1982, while the catch rate of coho decreased by the same amount. The average catch per angler-day for visiting anglers was 0.13 chinook, 0.23 coho and 0.45 for all salmon combined. It appears that the salmon CPUE for visiting anglers decreased by 40% to 50%. This apparent decrease could be attributed to differing questionnaire designs and analyses for the 1982 and 1983 surveys. Participants in the 1983 survey were asked to record the party size and party catch for each fishing trip, and the catch was adjusted accordingly. The 1982 survey requested individual catch, although some individuals may have reported party catch instead. This would inflate the total catch estimate, resulting in an overestimate of CPUE.

The average CPUE of sublegal salmon by B.C. resident anglers in 1983 was 0.27 chinook and 0.25 coho (Table 14). The CPUE of sublegal chinook exceeded the CPUE of legal chinook in 1983. The sublegal catch rates were highest from August through October (Figure 7) and exceeded the catch rates of legal chinook and coho during most of this time.

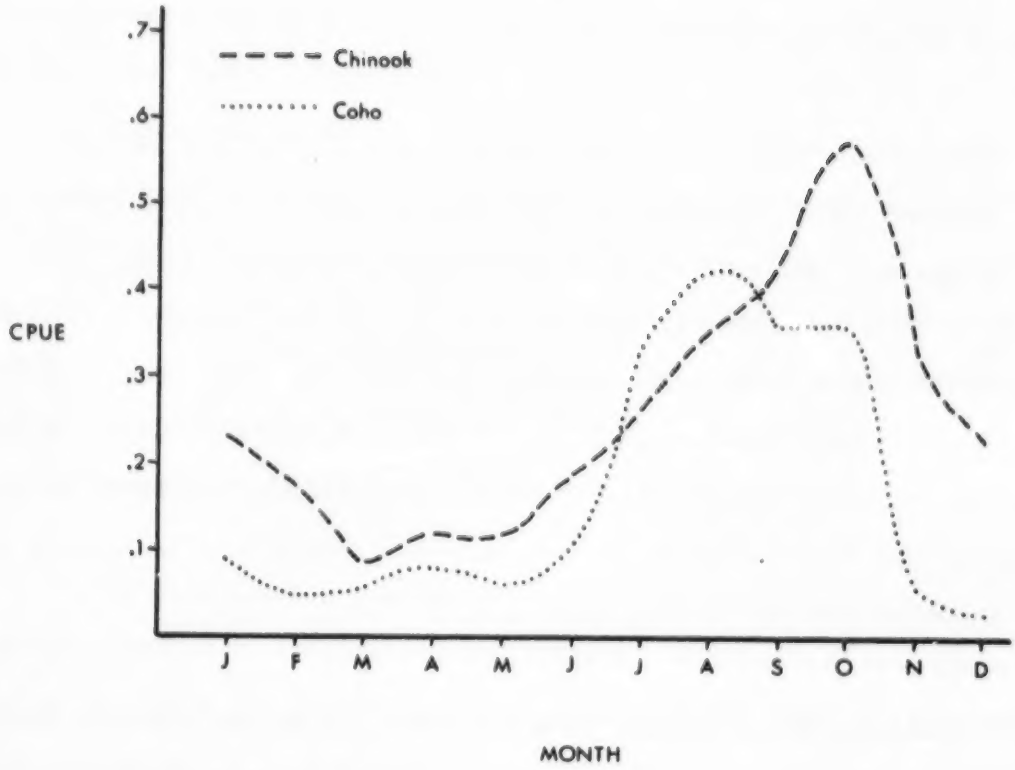
TABLE 14

1983 TIDAL SPORTFISHING DIARY PROGRAM
CPUE OF SUBLEGAL SALMON BY MONTH AND REGION

	Chinook (<18")	Coho (<12")
Month		
January	0.23	0.09
February	0.17	0.05
March	0.09	0.06
April	0.12	0.08
May	0.12	0.06
June	0.19	0.11
July	0.26	0.33
August	0.35	0.42
September	0.42	0.36
October	0.57	0.36
November	0.33	0.06
December	0.21	0.03
1983 Total	0.27	0.25
Region		
North and Central Coast	0.28	0.07
South Coast and Fraser	0.29	0.28
West Coast Vancouver Island	0.10	0.03

FIGURE 7

1983 TIDAL SPORTFISHING DIARY PROGRAM
CPUE SUBLEGAL CHINOOK AND COHO BY MONTH



Catch and Effort by Juvenile Anglers

The population of anglers aged 15 and under cannot be estimated directly from licence sales because these anglers are not required to purchase B.C. Tidal Waters Sport Fishing Licences. An estimate can be obtained from questionnaire data. The number of active B.C. resident juvenile anglers is estimated to be 56,000, and the number of visiting juvenile anglers is estimated to be 26,000 in 1983.

Other surveys (Cox 1977; Cumming 1979; Pelletier, Lacasse and Ducharme 1981; Thomson 1974) indicate that the average number of days fished by resident juvenile anglers is one to two-thirds the average number of days fished by their adult counterparts. Juvenile resident anglers fished an estimated 224,000 days in 1983, assuming that each juvenile resident angler fishes half as many days as an adult resident. Visiting juvenile anglers fished an estimated 126,000 days in 1983. This estimate is based on the assumption that visiting juveniles fish somewhere between half as many and an equal number of days as visiting adults.

The catch estimates obtained from the Diary Program and Visitors Survey are based on total party catch, including catch by juvenile anglers. Using the resultant catch rates from the surveys, resident juvenile anglers caught an estimated 42,000 chinook and 65,000 coho, while visiting juvenile anglers caught an estimated 21,000 chinook and 37,000 coho.

DISCUSSION

Survey Bias

Certain types of error are associated with any type of survey. One type of error is referred to as nonresponse and results from the failure to measure or contact the entire survey sample (Cochrane 1977). Biased measurements could be obtained if the characteristics of the measured group differ from the group that was not measured. Individuals that voluntarily return questionnaires as part of mail survey are probably more interested in the questionnaire subject and could provide biased measurements. Tidal Diary questionnaire respondents could be more active and successful anglers than nonrespondents. Estimates of participation and fishing activity from this source alone would be biased upwards. This bias can be corrected by obtaining corresponding information from the nonrespondents. A sample of nonrespondents was surveyed by telephone in 1983.

The survey results indicate that 72.6% of the nonrespondents actually fished, compared to 90.5% of the respondents. A chi-square test indicated a difference in these participation rates at the .05 level of significance. The proportion of active anglers (participation rate) has differed for questionnaire respondents and nonrespondents for all program years with the exception of 1979 (Table 15). The sample size of the 1979 telephone survey may have been too small to discern any difference between the respondents and nonrespondents (MacGregor 1982).

TABLE 15

TIDAL SPORTFISHING DIARY PROGRAM
PERCENTAGE OF ACTIVE ANGLERS

Program Year	Questionnaire	Nonrespondents
1983[1]	90.5	72.6
1982[1]	89.6	76.8
1981	no nonresponse survey conducted	
1980[2]	32.1	10.9
1979[2]	17.8	18.0

1. The questionnaire sample was selected from licenced anglers. Active anglers include individuals that used their licences.

2. The questionnaire sample was selected from the federal voters list. Active anglers include individuals that fished the previous year.

TABLE 16

1983 TIDAL SPORTFISHING DIARY PROGRAM
COMPARISON OF ANGLER ACTIVITY IN 1982

	Active 1983 Diarists	All Questionnaire Respondents	Nonrespondents
Average Days Fished:			
January to March	1.17	.75	1.64
April to June	5.38	3.64	3.24
July to September	11.92	8.14	6.96
October to December	1.76	1.20	.99
1982	20.28	13.82	12.80
Average Catch of:			
Chinook	2.76	1.63	1.75
Coho	5.21	3.13	2.8
Other Salmon	.94	.68	.54
Other Finfish	6.06	3.85	5.37

The average days fished and catches of respondents and nonrespondents are provided in Table 16. Active 1983 diarists reported fishing more days and catching more fish in 1982 than all questionnaire respondents in general. Significant differences between the diarists and all questionnaire respondents for all effort periods and catches were indicated by t-tests at the .05 level of significance. The same tests indicated no significant differences between questionnaire respondents and nonrespondents with the exception of the average days fished from January to March and from July to September.

A comparison of the results of the questionnaire and nonrespondent telephone survey for all program years is presented in Table 17. The average results obtained from the telephone survey are generally lower than those obtained from the questionnaire. This tends to support the assumption that questionnaire nonrespondents tend to fish less and catch fewer salmon than respondents although these differences are not statistically significant in all cases.

Another source of survey bias is referred to as recall bias and arises because individuals cannot always accurately recall details after time has passed. The result could be either under or overestimating, depending on the subject. The use of diary booklets eliminates recall bias during the program year because books are filled out as fishing occurs.

TABLE 17

QUESTIONNAIRE AND TELEPHONE SURVEY RESULTS

	Average Days Fished	Average Chinook Catch	Average Coho Catch	Average Salmon Catch	Month Conducted
1979:					
Questionnaire	12.32	-	-	8.63	-
Telephone Survey	10.59	-	-	7.53	March/1980
1980:					
Questionnaire	12.10*	-	-	11.51*	-
Telephone Survey	6.82*	-	-	5.41*	fall/1980
1982:					
Questionnaire	14.55*	2.80	3.52	-	-
Telephone Survey	8.45*	2.37	3.15	-	August/1980
1983:					
Questionnaire	13.82	1.63	3.13	-	-
Telephone Survey	12.80	1.75	2.80	-	March, July/1983

*=significance difference between means (α =.05).

The questionnaire and telephone survey data used to adjust the diary data could be susceptible to recall bias. Questionnaire recipients and individuals contacted during the telephone survey are asked to recall details of their fishing activity during the previous year. The telephone survey contacts are asked to recall back over a longer time period since the telephone survey is conducted at least 3 months after the initial questionnaire sendout. This time difference could be responsible for the differences between questionnaire and telephone survey data if the data are affected by recall bias.

Paired questionnaire and telephone survey responses were obtained from some individuals in 1983 and 1984. These responses were compared using paired t-tests. Individuals part of the 1984 program generally reported catching more fish, with the exception of other salmon, during the telephone survey than they reported in the questionnaire. Only finfish catch was observed to be significantly different at the .08 level of significance. The same individuals reported fishing more days from January to March and from October to December during the telephone survey than they reported in the questionnaire. The opposite was true for April to September and for the total days fished during the previous year. Only the average days fished from July to September was observed to be significantly different at the .08 level of significance.

Individuals part of the 1983 program generally reported catching more fish in the questionnaire than during the telephone survey. They also reported fishing more days in the questionnaire, with the exception of the period January to March. Significant differences were observed for the number of days fished from April to September and for the total days fished during the previous year at the .05 level of significance.

Since the 1983 survey was conducted closer to the period being recalled (March as opposed to the end of April for 1984), it would be expected that fewer differences would be observed for the 1983 program if time were a factor. However, the opposite was observed. More differences were observed for the 1983 program than for the 1984 program. It is possible that the 1984 sample size was too small relative to the standard deviation to permit the detection of any more significant differences. No conclusions regarding survey time and the effect of recall bias can be made based on the available data.

TABLE 18

PAIRED QUESTIONNAIRE AND TELEPHONE SURVEY RESPONSES

	1983		1984	
	Average Questionnaire Response	Average Telephone Survey Response	Average Questionnaire Response	Average Telephone Survey Response
Catch:				
Chinook	3.52	2.93	1.96	2.16
Coho	5.48	5.09	4.44	4.92
Other Salmon	.67	.33	.92	.72
Other Finfish	3.93	3.48	3.36	7.04
Days Fished:				
January - March	.62	.81	.64	1.27
April - June	6.83	2.65	4.55	3.00
July - September	11.73	8.58	10.77	9.32
October - December	.44	.35	1.00	2.00
Total Days	19.31	12.58	16.95	15.59

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APPENDIX A

SPECIES LISTS

TABLE A-1

Common and Scientific Names of Finfish Recorded by Tidal Diarists

Common Name	Scientific Name
Chinook salmon	*Oncorhynchus tschawytscha*
Coho salmon	*Oncorhynchus kisutch*
Pink salmon	*Oncorhynchus gorbuscha*
Sockeye salmon	*Oncorhynchus nerka*
Chum salmon	*Oncorhynchus keta*
Lingcod	*Ophiodon elongatus*
Pacific cod	*Gadus macrocephalus*
Rockfish	*Sebastes* spp.
Pacific halibut	*Hippoglossus stenolepis*
Trout	*Salmo* spp.
Flatfish	Pleuronectidae

APPENDIX A

SPECIES LISTS

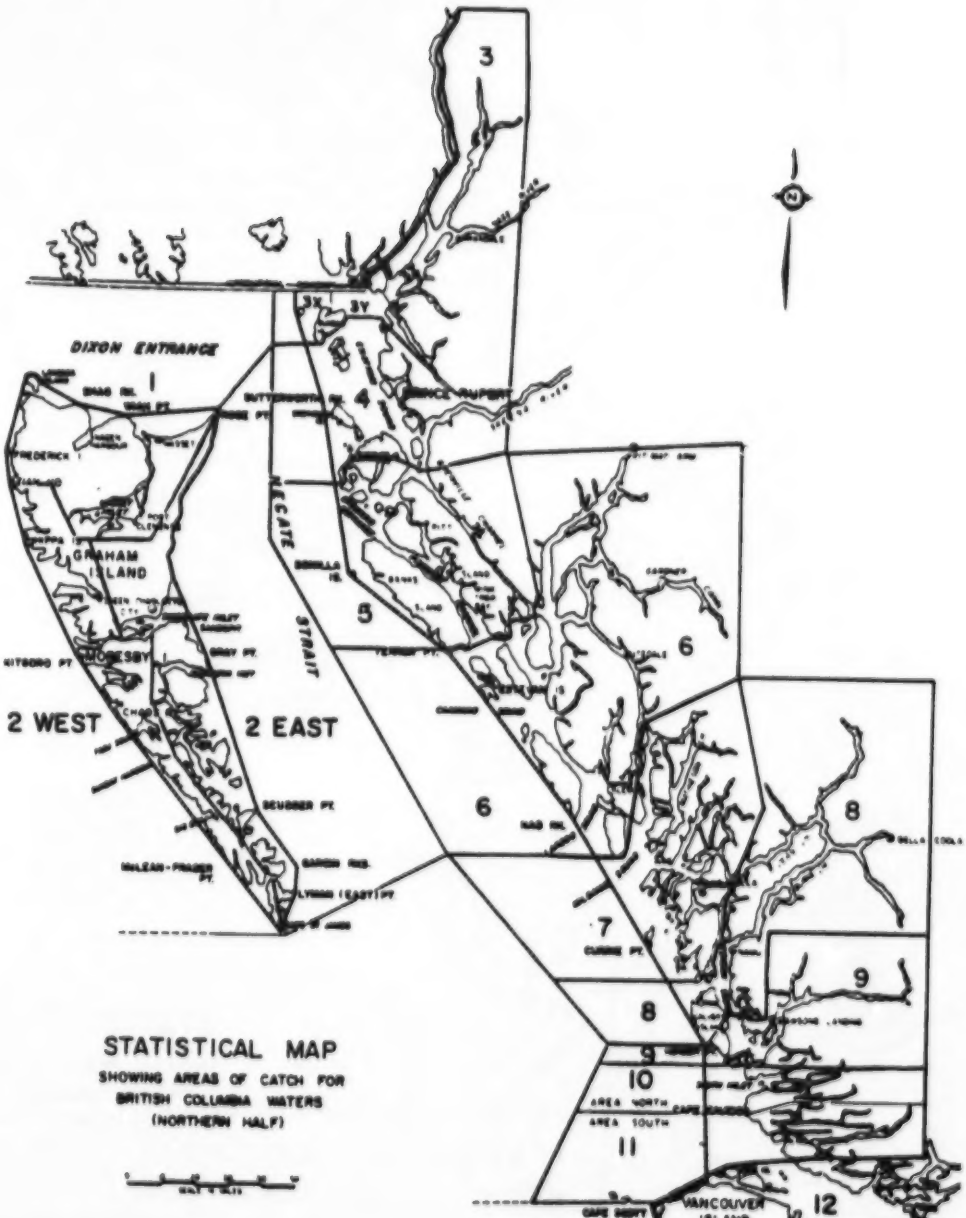
TABLE A-2

Common and Scientific Names of Shellfish Recorded by Tidal Diarists

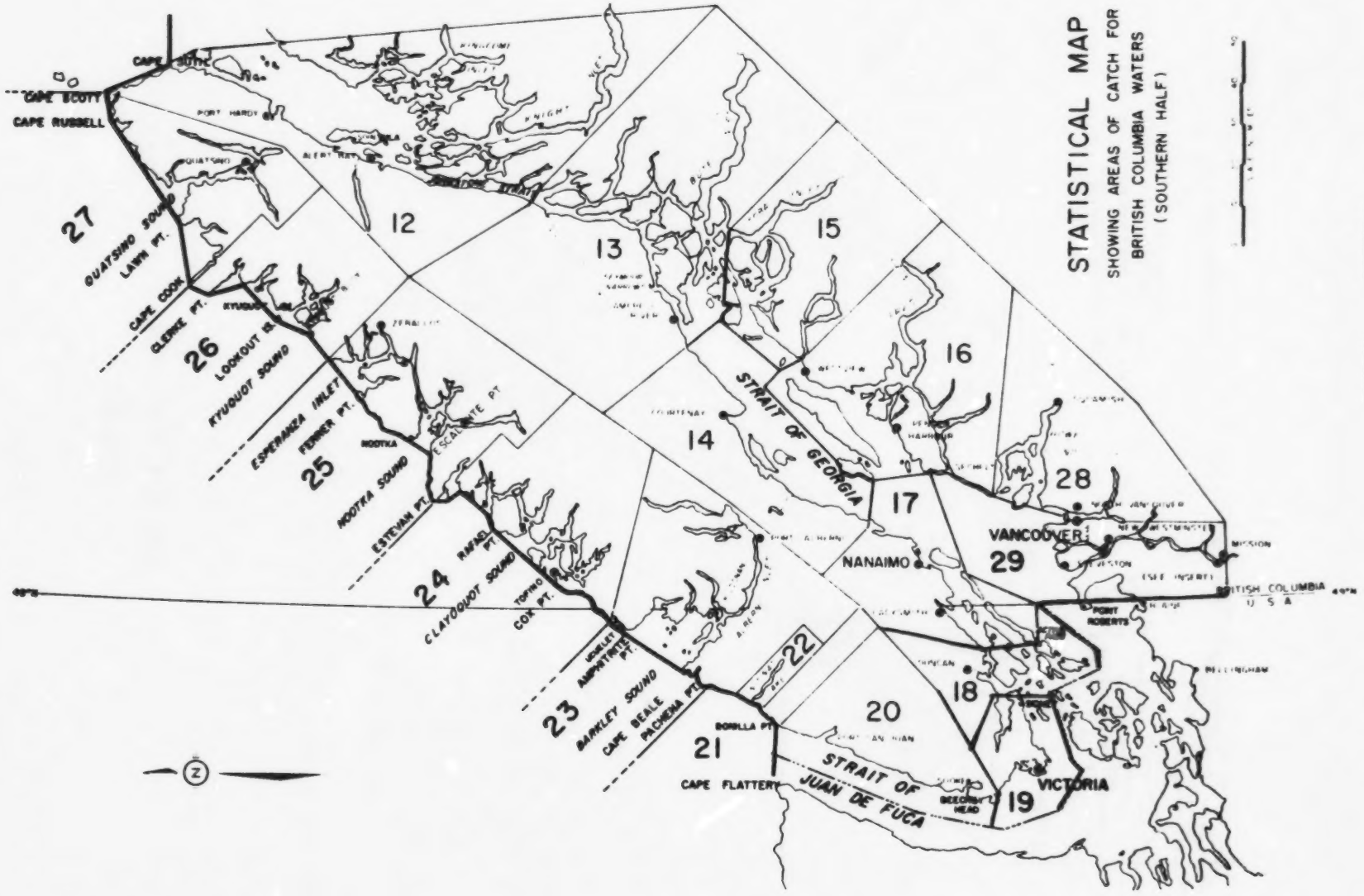
Common Name	Scientific Name
Crab	*Cancer* spp.
Shrimp, Prawns	*Pandalus* spp.
Clams	Pectenidae, Solenidae, Veneridae
Mussels	*Mytilus* spp, *Modiolus rectus*
Abalone	*Haliotis kamschatkana*
Oysters	Ostreidae

APPENDIX B

STATISTICAL AREA MAPS



STATISTICAL MAP
SHOWING AREAS OF CATCH FOR
BRITISH COLUMBIA WATERS
(NORTHERN HALF)


STATISTICAL MAP
SHOWING AREAS OF CATCH FOR
BRITISH COLUMBIA WATERS
(SOUTHERN HALF)
CAPE SCOTT
CAPE RUSSELL
PORT HARDY
QUATSINO SOUND
LAWN PT.
CAPE COOK
CLERKE PT.
LOOKOUT I.
KYUQUOT SOUND
ESPERANZA INLET
FERRER PT.
ZEBALLOS
ESCALANTE PT.
NOOTKA
NOOTKA SOUND
ESTEVAN PT.
RAFAEL PT.
CLAYOQUOT SOUND
TOFINO
COX PT.
HESQUIAT PENINSULA PT.
BARKLEY SOUND
CAPE BEALE
PACHENA PT.
BORDILLA PT.
CAPE FLATTERY
STRAIT OF JUAN DE FUCA
BECHER BAY
HEAD
VICTORIA
SOOKE
SAANICH
SAANICHTON
DUNCAN
COWICHAN
LAKE
NANAIMO
STRAIT OF GEORGIA
COMOX
CAMPBELL RIVER
ALERT BAY
KYUQUOT
VANCOUVER
NEW WESTMINSTER
MISSION
(SEE INSERT)
BRITISH COLUMBIA
U S A
PORT ROBERTS
BELLINGHAM
49°N
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APPENDIX C

SAMPLE FORMS

1. Tidal Diary Questionnaire

TIDAL DIARY QUESTIONNAIRE

(to be filled out by the person named in the address)

1. Please indicate the number of people in your household not including yourself who sportfished in B.C. tidal waters in 1983. If none, enter "0".

   a) 16 and Over _____ b) Under 16 _____

2. Did you personally fish in B.C. tidal waters in 1983?

   (If you did not fish in 1983, please proceed to Question 6.) YES ☐ NO ☐

3. Please indicate the number of days you fished each month. A "day" means all or any part of a day. Enter "0" in the months when you did not fish.

Jan. _____	Apr. _____	July _____	Oct. _____
Feb. _____	May _____	Aug. _____	Nov. _____
Mar. _____	June _____	Sept. _____	Dec. _____

4. On an average fishing day, how many hours did you fish? _____

5. How many of each of the following did you personally catch in B.C. tidal waters in 1983?
   Do not include released fish as part of the catch. If none, please enter "0".

   a) Chinook Salmon _____ c) Other Salmon _____
   b) Coho Salmon _____ d) Other Fin fish _____
   e) Shellfish _____

6. Would you be willing to keep a record of your 1984 fishing activity for us in diary books that we will provide?

   YES ☐ NO ☐

Business Reply Mail
No Postage Stamp Necessary if mailed in Canada

Postage will be paid by

Canada Post Postes Canada 5112

TIDAL SPORTFISHING DIARY PROGRAM
Department Of Fisheries And Oceans
1090 West Pender Street
Vancouver, B.C.
V6E 9Z9

2. Tidal Sportfishing Diary-Finfish Form (a)

Please read instructions on preceding page before filling out diary.

Please record crab and other shellfish on forms at back of book.

FINFISH

BOAT

These columns must be filled each time you go fishing

DATE	FISHING FROM: BOAT, SHORE, PIER, BAR OR DIVING	NO. PEOPLE FISHING	LINES IN WATER	HOURS FISHING	TARGET SPECIES (chinook, any fish, cod, etc)	AREA (see map)	CHINOOK					COHO			
							Under 18" Caught & released	18" – 26" Caught	18" – 26" Kept	Over 26" Caught	Over 26" Kept	Under 12" Caught & released	Over 12" Caught	Over 12" Kept	
Aug 12	Boat	2	3	6½	any salmon	17	2	1	1	0	0				

RECORD ALL DAYS FISHING EVEN IF YOU CAUGHT NOTHING

RECORDS

OR PARTY CATCH

PINK SALMON		OTHER SALMON (Specify type)		LINGCOD		PACIFIC COD		ROCKFISH (Red Snapper)		HALIBUT		TROUT		FLATFISH		OTHER FISH		
Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught	Kept	Type of Fish
		sockeye 1	1			1	0									5	5	herring

Questions? Phone (604) 666-6501 collect

SHELLFISH RECORDS

These columns must be filled each time you go fishing

BOAT OR PARTY CATCH

DATE	NO. OF PEOPLE	AREA (see map)	FISHING METHOD (trap, net, digging, hand, scuba)	CRAB					OTHER SHELLFISH					
				NO. OF TRAPS	SOAK TIME	CATCH		TYPE OF CRAB	SHRIMP, PRAWNS	CLAMS & MUSSELS		OYSTERS	OTHER	
						Caught	Kept		weight unshucked	number	type	number	number	type
June 6	2	12	trap	1	12	6	4	dungeness	2 lbs	60	littleneck	12	3	scallops

Visitors Sportfishing Survey - Page 1.

Government of Canada / Gouvernement du Canada
Fisheries and Oceans / Pêches et Océans

Visitor Sportfishing Survey

Canada

1. How many visits to British Columbia have you made in this licence year (Jan. 1983-Mar. 1984) which included fishing in B.C. Tidal waters?

_____ visit(s)

2. For each visit, please indicate:

- the number of people in your party
- the number of B.C. Tidal waters licence holders in your party
- the number of people fishing in your party aged 15 or under
- the total number of days spent in B.C. for each visit.

	People in party	Tidal waters Licence holders in party	Anglers aged 15 or under in party	Days spent in B.C.
Visit 1				
Visit 2				
Visit 3				
Visit 4				
Visit 5				

Visitors Sportfishing Survey - Page 2.

- 2 -

3. What was your main reason for coming to British Columbia? (Please check one only)

☐ Visiting friends and relatives
☐ Fishing
☐ Business
☐ General vacation
☐ Other _____

4. Please indicate how your decision to come to B.C. was affected by the availability of Tidal Waters sport fishing (please check one only)

If there were no Tidal sportfishing available in B.C.:

☐ I would still have visited B.C. and substituted other activities.
☐ I would still have visited but would not have stayed as long (I would have stayed _____ days less).
☐ I would not have come at all.

5. Using a scale of 1 to 5, please indicate the importance of each of the following factors in your choice of a place to go fishing by placing the appropriate number in the box.

1 of no importance
2 of some importance
3 important
4 very important
5 extremely important

☐ natural or scenic beauty of the area
☐ accompanying friends
☐ number of fish you expect to catch
☐ size of fish you expect to catch
☐ getting away from crowds
☐ ease of access (marinas, boat-ramps)
☐ availability of services (hotels, restaurants, etc.)
☐ other (specify) _____

Visitors Sportfishing Survey - Page 3.

- 3 -

6. Please fill in the following table, even if you and your party caught no fish. Instructions for filling out the table are given below.

MONTH	AREA	DAYS	NO. OF PEOPLE	CHINOOK	COHO	OTHER SALMON	OTHER FISH		SHELLFISH	
							number	type	number	type
August	13	4	3	6	3	1	2	lingcod		
August	14	3	3	4	5	2			3	crab

Month: Record the month(s) you personally fished in B.C. Tidal waters in the 1983 licence year (Jan. 1983 through Mar. 1984). Please indicate "84" if the month is in 1984.

Area: Refer to the enclosed map of Fisheries statistical areas (opposite page), locate the area where you were fishing, and record the corresponding area number. If you fished in more than one area in the month, use a separate line for each area fished, and record the appropriate information for those areas on separate lines.

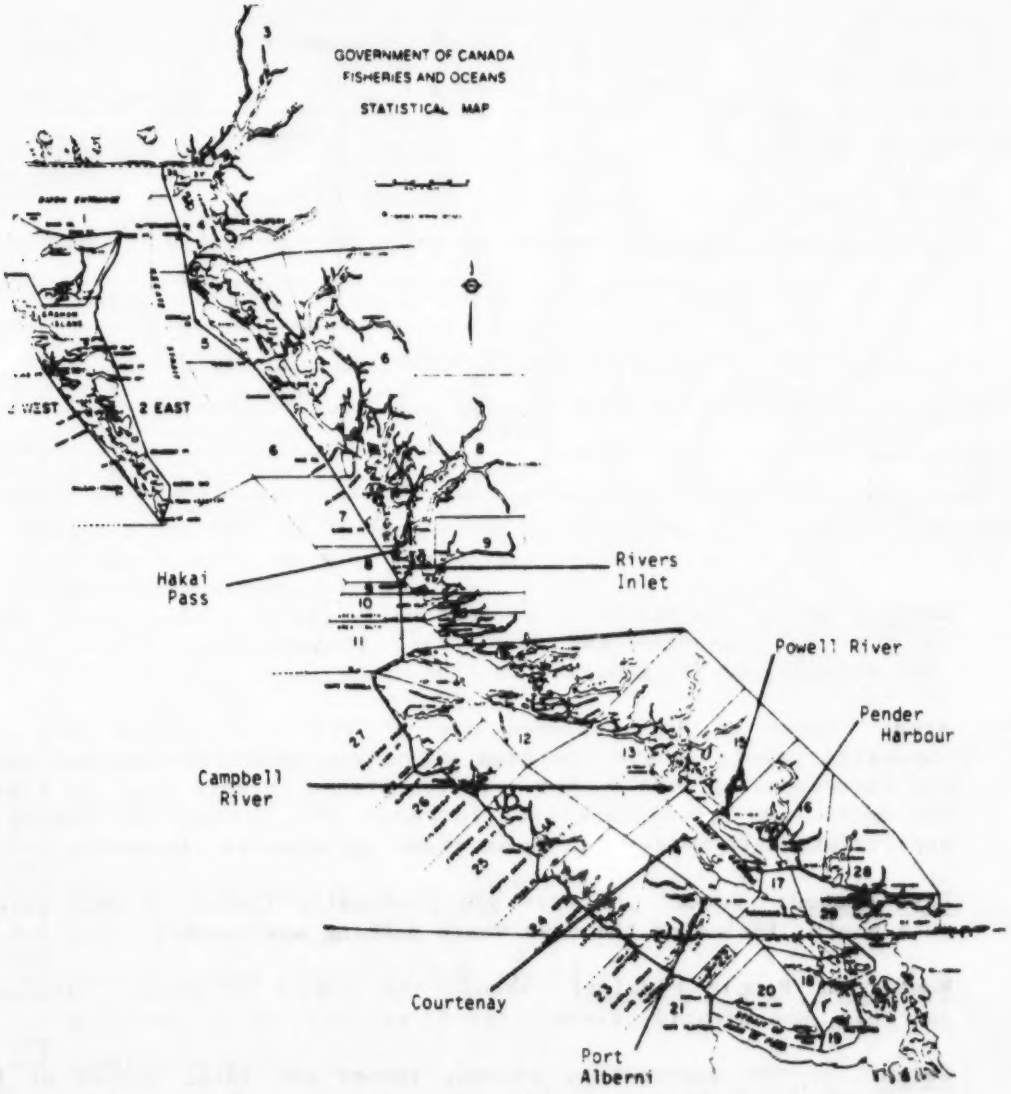
Days Fished: Record the days you personally fished in each area in each month, **including the days where nothing was caught.**

Number of People Fishing: Record the number of people, including yourself, who actually fished.

Catch: In the appropriate column, record the total number of fish caught by the fishing party (do not include fish that are released).

Visitors Sportfishing Survey - Page 4.

- 4 -



Visitors Sportfishing Survey - Page 5.

- 5 -

7. Did you purchase any "package" sportfishing trips, tours or outings to fish in B.C. Tidal waters in 1983 (for example, fly-in fishing camps or charter services where the price included transportation, lodging, food, tackle, bait, etc.)?

☐ yes ☐ no

If yes, what was the total price of the package? $_____

8. Excluding package trips, please estimate below the amount of money your party spent in B.C. on trips that included sportfishing in the 1983 licence year (Jan. 1983-Mar. 1984):

1. Lodging (hotel, motel, cottage rental, etc.) $_____

2. Trailer Park (campground fees) $_____

3. Food - restaurant meals & snacks $_____
   - groceries $_____
   - alcoholic beverages $_____

4. Travel Costs within B.C. - car $_____
   - air $_____
   - ferry $_____
   - other $_____

5. Boat Rentals $_____

6. Fishing Supplies (tackle, clothing, etc.) $_____

7. Bait $_____

8. Household owned boat cost - gas $_____
   - repairs $_____
   - moorage $_____
   - other $_____

9. Guide or Charter services (not included in question 9 on package trips) $_____

10. Fish processing (canning, smoking, etc.) $_____

11. Other (Specify) $_____

Visitors Sportfishing Survey - Page 6.

- 6 -

9. How did you find out about Tidal sportfishing in B.C.

☐ travel agent
☐ friends or relatives
☐ magazine advertising
☐ local advertising while visiting B.C.
☐ other _____

10. How many trips have you made to B.C. in the last five years that included Tidal water sport fishing?

_____ trip(s)

11. Are you intending to fish in British Columbia Tidal waters again before the end of the current licence year (March 31, 1984)?

☐ Yes ☐ No

12. Will you return to fish in British Columbia Tidal waters in future years?

☐ Yes ☐ No ☐ Uncertain

13. Did you also purchase a B.C. provincial freshwater fishing licence during 1983?

☐ Yes ☐ No

14. Please feel free to comment on your fishing experience in B.C. Tidal waters and indicate how it could have been improved.

_____

_____

_____

_____

_____

_____

_____

_____